

ABSTRACT

Improved air embossing systems, improved air lances, and improved methods of air embossing fabrics, which are able to produce an unprecedented level of fine detail, crisp transition between unembossed and embossed regions, lack of undesired embossing artifacts, and a high degree of uniformity across the width of an embossed fabric, when compared to the performance of typical, conventional air embossing systems are disclosed. The disclosed air embossing systems utilize generally cylindrical, rotating stencils with air lances positioned therein for directing a stream of air through apertures in the stencil and onto the embossable surface of a fabric. The systems also include at least one stencil stabilizer that is constructed and positioned within the system to apply a force to the stencil during operation that is sufficient to reduce, and preferably essentially eliminate, variations in the distance separating the surface of a fabric being embossed by the system and the portion of the fabric-facing surface of the stencil directly adjacent thereto during rotation of the stencil.

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